Abstract

UHPC (Ultra High Performance Concrete) material is currently becoming an increasingly used modern material. This fine-grained cement composite is characterized by excellent durability and significantly better strength characteristics compared to common concrete. Not only it provides innovation in using it for demanding architectural shapes structures, thin-walled structures or prestressed bridge girders, but its use can significantly optimize stressed structural details. One of these exposed structural details requiring durability and high strength are the joints of prefabricated parts of structures and couplings. In order to reliably design and use such demanding details, it is necessary to describe the behavior of the material in terms of its bond with reinforcement and evaluate the effect of the increased shear stress in relation to the optimization of the joint.